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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,314	02/09/2004	Naoki Otaka	P08137US00/RFH	1073
881	7590	05/31/2005	EXAMINER	
STITES & HARBISON PLLC 1199 NORTH FAIRFAX STREET SUITE 900 ALEXANDRIA, VA 22314			PHAN, THO GIA	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,314

Applicant(s)

OTAKA ET AL.

Examiner

Tho G. Phan

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6 and 9 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5, 7, 8 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/7/04, 2/9/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akira (JP 2001024426) [submitted by Applicant] in view of Tomomatsu et al (US 2002/0149538).

Akira in figures 1 and 3 discloses at least two dielectric chip antennas (dielectric substrate+patches antenna) 1a/1b, 21a/21b, each of the two dielectric chip antennas having a base end 5/9, 24/28 connected to the feeding electrode 10 and a floating end as an open end (the top right side edge portion of patch 3 and the top edge portion of patch 7), wherein the a distance between the open ends (the arrow between A and D or the gap between patch 3/7, 23/27) of the two dielectric chip antennas is shorter (figures 1 and 3) than a distance between the base ends 5/9, 24/28 of the two dielectric chip antennas 1a/1b, 21a/21b. Akira has been discussed but fails to teach the antennas as an internal antenna being mounted on the substrate and the pattern of the antennas (radiation electrodes) has a meandering shape. However, Tomomatsu et al in figures 1-16 show the antennas for using as an internal antenna (see paragraph [0003]) being mounted on the substrate 10,16 and the pattern of the antennas 22 (radiation electrodes) has a meandering shape. It would have been obvious to provide the

antennas as an internal antenna being mounted on the substrate and the pattern of the antennas (radiation electrodes) has a meandering shape as taught by Tomomatsu et al for the purpose of providing a smaller sized antenna, therefore improving its bandwidth (see paragraph [0007]).

Allowable Subject Matter

3. Claims 2-3, 5, 7-8 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: The claims are allowable over the art of record because the prior art does not teach each of the dielectric chip antennas is configured as a pair of radiation electrodes, wherein the radiation electrodes have such a pattern that the both ends of the chip antennas are connected to the feeding electrode and the other of the radiation electrodes is corresponding to a different frequency from the one frequency, and in combination with the remaining claimed limitations.


Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Ki-Duk et al, Yujiro et al, Teruhisa et al, Hyun Jai et al, Jae-Suk and Hyun-Jai et al are cited as of interested and illustrated a similar structure to a high frequency antenna module assembly.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho G. Phan whose telephone number is 571-272-1826. The examiner can normally be reached on M-F, 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'Tho G. Phan', with a long horizontal line extending to the right.

Tho G Phan
Primary Examiner
Art Unit 2821